

A remarkable new species of the subfamily Trachycardiinae
(Mollusca, Cardiidae) from the Indo-Pacific.

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ABSTRACT : *Acrosterigma fidele* is described, based on material from a number of localities in the Indo-West Pacific.

RESUME : Description de *Acrosterigma fidele*, basée sur du matériel en provenance d'un certain nombre d'endroits de l'Indo-Pacifique.

KEYWORDS : Mollusca, Trachycardiinae, *Acrosterigma*, Indo- Pacific.

INTRODUCTION

This large *Acrosterigma* species has recently been offered for sale by some American dealers, probably in relatively large numbers. It is also present, but very rare, in the collections of some museums, and was cited at least once in the literature. It has never been described as new, but there are many constant species-specific characters which easily separate it from other Indo-Pacific *Acrosterigma*. As far as I know, two different wrong identifications and two different localities have been given by dealers : - *Vasticardium okinawaense* (Kuroda, 1960), from Okinawa Island (Japan). - *Acrosterigma assimile* (Reeve, 1844), from Tuticorin (South India).

MATERIAL EXAMINED

The examined material consists in 14 shells from six different localities. The measurements were made on 11 specimens considered as adult

(more than 40 mm high) from 5 different localities. These shells are stored in 4 museums : Museum National d'Histoire Naturelle, Paris (MNHN), British Museum (Natural History), London (BMNH), Australian Museum, Sydney (AMS), Academy of Natural Sciences, Philadelphia (ANSP). The detail of the material examined is as follows :

1) JAPAN (?), Okinawa Is (?), 5 spm., 4 in the type series (Vidal Coll., 1992, MNHN not catalogued). (The locality cannot be considered as certain).

2) INDIA (?), Tuticorin (?), 4 spm. (Vidal Coll., 1992, MNHN not catalogued). (The locality cannot be considered as certain).

3) MALAYSIA, Marang, 1 spm. (no coll., BMNH not catalogued).

4) BURMA, off Tavoy Is, 2 small r.v. (Intern. Indian O. Exped., 1963, ANSP n 292951).

5) KENYA, Shimoni, 20 m, 1 r.v. (Bentley-Buckle Coll., 1972, MNHN not catalogued).

6) MADAGASCAR, Ambatoloaka, 1 spm. (Chavane Coll., 1972, AMS n C 88975).

SYSTEMATICS

FAMILY CARDIIDAE Lamarck, 1809.

SUBFAMILY TRACHYCARDIINAE

Stewart, 1930.

Genus *Acrosterigma* Dall, 1900.

The use of this genus follows WILSON & STEVENSON (1977).

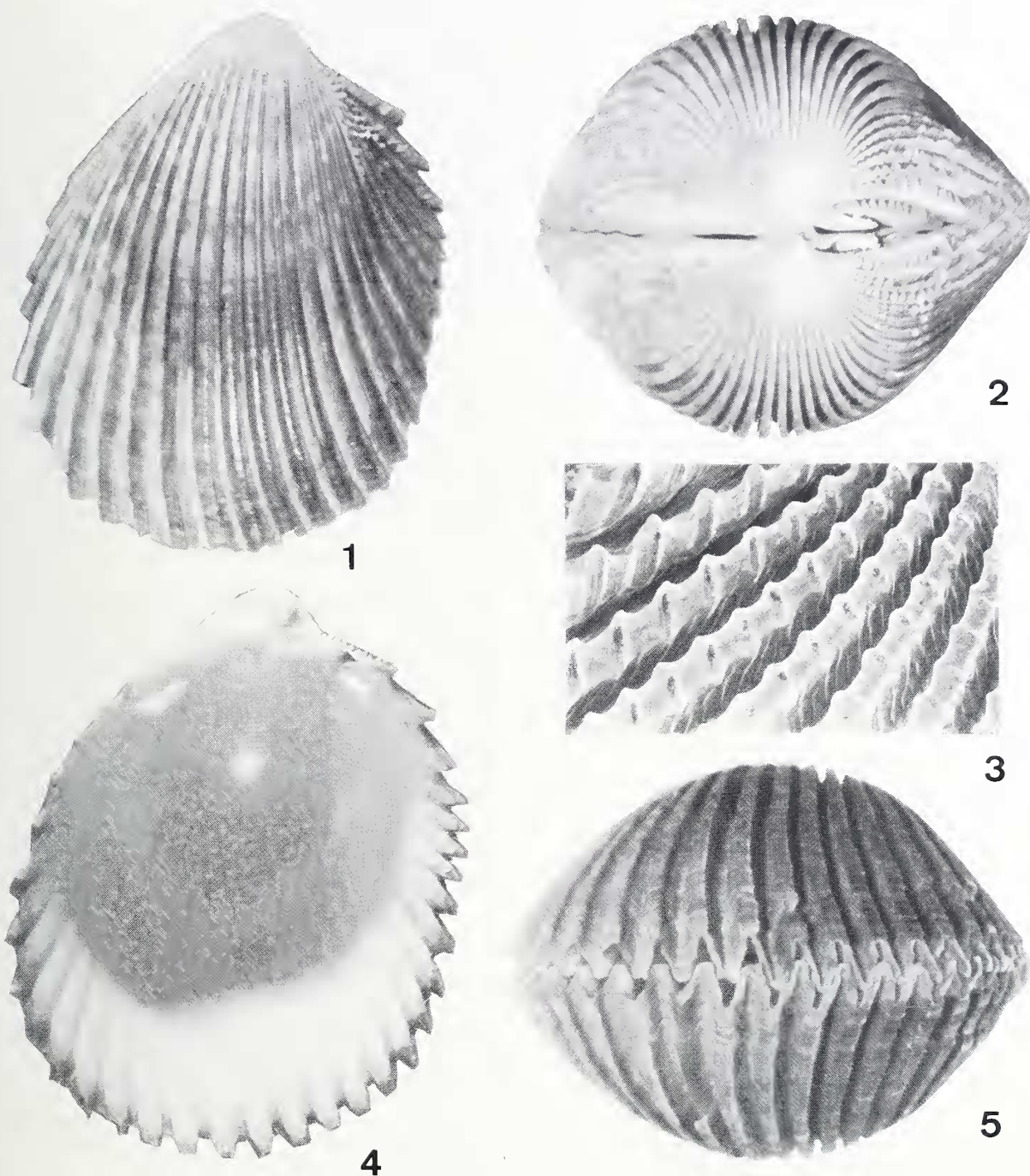
Acrosterigma fidele sp. nov.*Trachycardium* (*Vasticardium*) *elongatum* (Bruguière, 1789) : SPRINGSTEEN & LEOBRERA, 1986 : 307, Pl. 87, fig. 7.

DESCRIPTION.

Shell of medium to large size up to 75.3 mm high, 57.7 mm long, 48.0 mm wide. Shell sub-ovoid, rather inequilateral, with its posterior part flared out but broadly truncated : this truncation gives the shell a "subrectangular" outline and shortens the posterior quarter which is slightly depressed and takes the appearance of a "wing". The anterior part is somewhat flattened, contributing to the "subrectangular" shape of the shell. Shell elongated in adult stage : mean L/H (Length/Height) ratio = 0.77 (range 0.72-0.85), and relatively wide : mean L/W (Length/Width) ratio = 1.19 (range 1.07-1.31).

Colour light pinkish-yellow to brown-orange, with darker splashed and/or concentric stripes. The anterior quarter of the shell is always of a lighter colour, sometimes almost white. The interstices are generally of a lighter colour than the ribs, particularly in the posterior quarter. Interior white, with some yellow colouring in the umbonal cavity and on the margins. Ligament rather short (see ratio D). Pseudo-lunular area narrow (see Fig. 2). Main number of ribs 30.7 for the left valve and 31.2 for the right one (range both 29-34). Hinge line moderately arched : main angle A (in the right valve, angle between two lines joining the main cardinal tooth to respectively both lateral teeth) = 124 (range 115-130), rather asymmetric with anterior part larger : mean ratio D (in the left

valve, ratio between the distances from each lateral tooth to the extremity of the umbo, the posterior one being numerator) = 0.95 (range 0.79-1.00). This latter ratio makes this species different from many other ones of the same genus, where it is more than 1. The posterior cardinal tooth in the left valve (4b) is rather important and almost as high as the other cardinal tooth (2). The basement of the anterior lateral teeth, above all in the left valve, projects slightly into the inside of the shell with its ventral limit slightly curved. The structure of the ribs does not change in the different stages of growth, contrary to many of the other species of the genus. There are six or seven ribs in the posterior quarter each rather square-sided, with their top zone bending onwards, with large "helical" scales on their posterior side. In the medial part of the shell, the ribs are extremely high with a smooth flat top with finely crenulated edges which overhang wide leaning sides with two different concavities : in the upper part, the concavity is upwards ; in the lower part, it is downwards (the profile of the ribs is like the one of an overturned "stem glass", see Fig. 5). These flanks are strongly and more or less obliquely striated. The bottoms of the interstices are narrow, separated from the flanks and weakly and irregularly notched. On the ventral margin, the top zone of the ribs ends before the interstices the bottoms of which constitute the longest parts of the shell. This produces important serrations in the margin. The two valves do not interlock entirely: the shell does not close perfectly and small apertures remain below each rib. The ribs become progressively asymmetric in the medio-anterior quarter, their anterior flank becoming shorter and more abrupt. The ribs are also asymmetric in the anterior quarter, the anterior flanks becoming progressively shorter, and the first ribs of the anterior zone having very small flanks and narrow interstices. In this area, the border crenulations join across the top of the ribs to form imbricated ridges. These ridges are also present in the medial part of the shell.



Figures 1 to 5 : Holotype of *Acrosterigma fidele* sp. nov.

Fig. 1 : Exterior of the left valve (x 1.1). Fig. 2 : Dorsal side, showing the three different structures of the ribs in anterior quarter (left), medial part (middle), posterior quarter (right) (x 1.4). Fig. 3 : Detail of the structure of medial part and anterior quarter in the juvenile stage of growth (x 12). Fig. 4 : Interior of the right valve (x 1.2). Fig. 5 : Ventral side showing the "open" interlocking of the two valves and the particular profile of the ribs in the medial part of the shell (x 1.3).

	H	L	W	Ribs lv	Ribs rv	Angle A	Ratio D
Holotype	75.3	57.7	48.0	30	31	130	.79
Paratype n° 1	71.1	52.2	44.5	31	31	125	.86
Paratype n° 2	59.6	44.5	41.0	30	30	123	.88
Paratype n° 3	57.7	41.5	38.0	30	30	120	1.00

Table 1. Dimensions and statistical data.

TYPE MATERIAL. The type series selected consists in four shells possibly coming from Okinawa Island, deposited in MNHN in Paris, one holotype and three paratypes (see below) which are the largest and the most beautiful specimens among all I saw. The species being very constant in characters, the above general description is perfectly applicable to the type series. The dimensions (in mm) and statistical data concerning these four specimens are given in Table 1.

ETYMOLOGY. *Fidele*, in latin, means faithful, loyal, reliable, constant. The choice of this name is an allusion to the stability of all the characters of this species which are uniform, not only from one population to another, but also on each individual in the different stages of growth.

REMARKS. *Acrosterigma fidele* is a rare beautiful large "*Cardium*" with very constant characters and extremely typical. Its general appearance is a little like the Western Australian "rectangular" form of *Acrosterigma elongatum* (Bruguière, 1789), but the "winged" character is more pronounced and many other features separate these two species, particularly the main number of ribs (40 on *A. elongatum* versus about 31 on *A. fidele*), the structure of the ribs and maybe above all the constancy of all its characters, the former being very variable. It differs mainly from the other species of the genus (and in particular *A. okinawaense* and *A.*

assimile, the ones the American dealers have identified the present species as) by the "winged" character of the shell, its very high and regular ribs with their particular "stem-glass" profile, by the ventral apertures below each rib, etc...

DISTRIBUTION. In addition to the distribution issued from the above cited examined material, the only record in the literature I was able to find is the specimen described and photographed by SPRINGSTEEN and LEOBRERA (1986 : 307, Pl. 87, Fig. 7). These authors write about the species "sporadically found throughout the Philippines in limited quantity", identifying it as *Trachycardium (Vasticardium) elongatum* (Bruguière, 1789).

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